DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, DC

JUL 31 2007

MEMORANDUM FOR SEE DISTRIBUTION

FROM: HQ USAF/A7C
1260 Air Force Pentagon
Washington, DC 20330-1260

SUBJECT: Air Force Sustainable Design and Development (SDD) Policy

1. This memorandum updates and expands existing policy (19 Dec 01 Sustainable Development Policy) and reinforces the importance of sustainable development concepts in the planning, design, construction, and operation of facilities and infrastructure. The goal of this policy memo is to: reduce the environmental impact and total ownership cost of facilities; improve energy efficiency and water conservation; and provide safe, healthy, and productive built environments. To this end, and consistent with the requirements of the Energy Policy Act of 2005 (EPAct05) and Executive Order 13423, all Air Force construction projects, regardless of scope or funding source, shall endeavor to use the United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Green Building Rating Systems as their self-assessment metric. The key to the success of this policy is setting sustainable development goals early in the planning, programming, and budgeting process and ensuring these goals are attained during design and construction.

2. Beginning in FY09, 100% of each MAJCOM's MILCON vertical construction projects, with climate control, shall be designed so that it is capable of achieving LEED Silver certification. This is not an option; sustainable features can not be eliminated to save scope or cut cost. To accomplish this goal, the Air Force will document SDD, EPAct05, and EO13423 costs on the DD Form 1391, with a separate line item under primary facility costs identified as "SDD & EPAct05", beginning with the FY09 MILCON program. These costs will be programmed at no more than 2% of the primary facility cost unless specific detailed costs are determined. When the costs exceed 2%, an explanation will be provided in block 10 of the 1391.

3. For projects (horizontal, utility, and industrial) that do not fit the traditional definition of LEED, guidance has been provided to assist in determining credits appropriate to the project type for successful incorporation of policy (see attachments 2, 3, and 4 for specific details). All SRM projects shall consider incorporation of LEED principles where financially feasible.

4. Beginning in FY09, each MAJCOM shall select 5% (by project cost) of the total MILCON, per FY, for formal LEED registration and certification (the requirement increases and remains at 10% beginning in FY10). Projects not selected for registration and certification must be evaluated by a LEED accredited professional and found to be compliant with this policy. In an effort to improve awareness and cross-feed, peer validation between MAJCOMs, Agents, and AFCEE is encouraged.

5. Status of the implementation of this policy shall be monitored and documented by a LEED accredited professional. At a minimum, this will occur at the programming/customer concept document, design charette, final design, and beneficial occupancy phases of all projects. Any decisions based on cost constraints leading to deletion of sustainable concepts, or certification of the project, shall be included in the documentation. The sustainable development implementation and validation process shall continue throughout the life of the facility. A pending ETL will outline the reporting requirements.

6. Host Nation, NATO-funded, and temporary facilities projects are not required to be capable of achieving LEED certification but should incorporate sustainable concepts to the maximum extent possible. These projects shall use a Host Nation equivalent, sustainable design green building rating system where it exists in lieu of LEED.

7. This policy letter encompasses and implements the sustainable development requirements of the Energy Policy Act of 2005 and the recommendations of the Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding in the Air Force (see attachment 1 for specific details).

8. Specific roles and responsibilities in support of this policy are:

ORGANIZATION	ROLES AND RESPONSIBILITIES
HQ USAF/A7C	Development and dissemination of sustainable development policy. POC: Dale Olson, AF/A7CP dale.olson@pentagon.af.mil
AFCEE	Provide guidance documents and technical support, to include planning, design criteria, the delivery process, and environmental management. POC: Paula Shaw, HQ AFCEE/TDB, paula.shaw@brooks.af.mil
AFCESA	Provide guidance documents and technical support to include engineering criteria, construction standards, life cycle and sustainable costs, energy and water conservation, and operations and maintenance issues. POC: Gerald Doddington, HQ AFCESA/CESM gerald.doddington@tyndall.af.mil

9. As new LEED rating systems are introduced by the USGBC, AFCEE and AFCESA will evaluate the potential for incorporation into the Air Force Construction Program and will forward recommendations to HQ USAF/A7C for policy consideration. Commitment to the success of this policy is critical in ensuring the success of the Air Force mission. My POC for this program is Mr. Dale Olson, DSN 327-0120.

DEL EULBERG, Maj Gen, USAF
The Civil Engineer
DCS/Logistics, Installations & Mission Support

4 Attachments:
1. LEED v2.2 Project Checklist
2. Applying LEED Principles to Air Force Horizontal Construction Projects
3. Applying LEED Principles to Air Force Utility Projects
4. Applying LEED Principles to Air Force Industrial Facility Projects

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ATTACHMENT 1

LEED™-NC, v2.2 Project Checklist

LEED-NC, v2.2	
Sustainable Sites	**14 Possible Points**
SS Prereq 1: Construction Activity Pollution Prevention	Required
SS Credit 1: Site Selection	1
SS Credit 2: Development Density & Community Connectivity	1
SS Credit 3: Brownfield Development	1
SS Credit 4.1: Alternative Transportation: Public Transportation Access	1
SS Credit 4.2: Alternative Transportation: Bicycle Storage & Changing Room	1
SS Credit 4.3: Alternative Transportation: Low Emitting & Fuel Efficient	1
SS Credit 4.4: Alternative Transportation: Parking Capacity	1
SS Credit 5.1: Site Development: Protect or Restore Habitat	1
SS Credit 5.2: Site Development: Maximize Open Space	1
SS Credit 6.1: Stormwater Design: Quantity Control	1
SS Credit 6.2: Stormwater Design: Quality Control	1
SS Credit 7.1: Heat Island Effect: Non-Roof	1
SS Credit 7.2: Heat Island Effect: Roof	1
SS Credit 8: Light Pollution Reduction	1
Water Efficiency	**5 Possible Points**
WE Credit 1.1: Water Efficient Landscaping: Reduce by 50%[1]	1
WE Credit 1.2: Water Efficient Landscaping: No Potable Water Use	1
WE Credit 2: Innovative Wastewater Technologies	1
WE Credit 3.1: Water Use Reduction: 20% Reduction	1
WE Credit 3.2: Water Use Reduction: 30% Reduction	1
Energy & Atmosphere	**17 Possible Points**
EA Prereq 1: Fundamental Commissioning of the Building Energy Systems	Required
EA Prereq 2: Minimum Energy Performance	Required
EA Prereq 3: Fundamental Refrigerant Management	Required
EA Credit 1: Optimize Energy Performance[2]	1-10
EA Credit 2: On-Site Renewable Energy	1-3
EA Credit 3: Enhanced Commissioning	1
EA Credit 4: Enhanced Refrigerant Management	1
EA Credit 5: Measurement & Verification	1
EA Credit 6: Green Power	1
Materials & Resources	**13 Possible Points**
MR Prereq 1: Storage & Collection of Recyclables	Required
MR Credit 1.1: Bldg Reuse: Maintain 75% of Existing Walls, Floors, Roof	1
MR Credit 1.2: Bldg Reuse: Maintain 95% of Existing Walls, Floors, Roof	1
MR Credit 1.3: Bldg Reuse: Maintain 50% of Interior Non-Structural Elements	1
MR Credit 2.1: Construction Waste Management: Divert 50% from Disposal	1
MR Credit 2.2: Construction Waste Management: Divert 75% from Disposal	1
MR Credit 3.1: Materials Reuse: 5%	1
MR Credit 3.2: Materials Reuse: 10%	1
MR Credit 4.1: Recycle Content: 10% (post-consumer + ½ pre-consumer)	1
MR Credit 4.2: Recycle Content: 20% (post-consumer + ½ pre-consumer)	1
MR Credit 5.1: Regional Materials: 10% Extracted, Processed & Manufactured Regionally	1
MR Credit 5.2: Regional Materials: 20% Extracted, Processed & Manufactured Regionally	1
MR Credit 6: Rapidly Renewable Materials	1

MR Credit 7: Certified Wood	1

Indoor Environmental Quality	**15 Possible Points**
EQ Prereq 1: Minimum IAQ Performance	Required
EQ Prereq 2: Environmental Tobacco Smoke Control	Required
EQ Credit 1: Outdoor Air Delivery Monitoring	1
EQ Credit 2: Increased Ventilation	1
EQ Credit 3.1: Construction IAQ Management Plan: During Construction	1
EQ Credit 3.2: Construction IAQ Management Plan: Before Occupancy	1
EQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants	1
EQ Credit 4.2: Low Emitting Materials: Paints & Coatings	1
EQ Credit 4.3: Low-Emitting Materials: Carpet Systems	1
EQ Credit 4.4: Low-Emitting Materials: Composite Wood & Agrifiber Products	1
EQ Credit 5: Indoor Chemical & Pollutant Source Control	1
EQ Credit 6.1: Controllability of Systems: Lighting	1
EQ Credit 6.2: Controllability of Systems: Thermal Comfort	1
EQ Credit 7.1: Thermal Comfort: Design	1
EQ Credit 7.2: Thermal Comfort: Verification	1
EQ Credit 8.1: Daylighting & Views: Daylight for 75% of Spaces	1
EQ Credit 8.2: Daylighting & Views: Views for 90% of Spaces	1

Innovation & Design Process	**5 Possible Points**
ID Credit 1-1.4: Innovation in Design	1-4
ID Credit 2: LEED Accredited Professional	1

Project Totals	**69 Possible Points**

Certified 26-32 points Silver 33-38 points Gold 39-51 points Platinum 52-69 points

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[1] Green, underlined items indicate credits addressed in the *Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding*

[2] Red, italicized item indicate credits in compliance with Energy Policy Act of 2005 and addressed in the *Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding*

ATTACHMENT 2

APPLYING LEED™-NC PRINCIPLES TO AIR FORCE HORIZONTAL CONSTRUCTION*

Project Checklist

Sustainable Sites		7 Possible Points
Prereq 1	Construction Activity Pollution Prevention	Required
Credit 1	Site Selection	1
Credit 3	Brownfield Development	1
Credit 5.1	Site Development: Protect or Restore Habitat	1
Credit 5.2	Site Development: Maximize Open Space	1
Credit 6.1	Stormwater Design: Quantity Control	1
Credit 6.2	Stormwater Design: Quality Control	1
Credit 8	Light Pollution Reduction	1
Water Efficiency		2 Possible Points
Credit 1.1	Water Efficient Landscaping: Reduce by 50%	1
Credit 1.2	Water Efficient Landscaping: No Potable Use or No Irrigation	1
Materials & Resources		8 Possible Points
Credit 2.1	Construction Waste Management: Divert 50% from Disposal	1
Credit 2.2	Construction Waste Management: Divert 75% from Disposal	1
Credit 3.1	Materials Reuse: 5%	1
Credit 3.2	Materials Reuse: 10%	1
Credit 4.1	Recycled Content: 10% (post-consumer + ½ pre-consumer)	1
Credit 4.2	Recycled Content: 20% (post-consumer + ½ pre-consumer)	1
Credit 5.1	Regional Materials: 10% Extracted, Processed & Manufactured Regionally	1
Credit 5.2	Regional Materials: 20% Extracted, Processed & Manufactured Regionally	1
Innovation & Design Process		5 Possible Points
Credit 1.1	Innovation in Design	1
Credit 1.2	Innovation in Design	1
Credit 1.3	Innovation in Design	1
Credit 1.4	Innovation in Design	1
Credit 2	LEED Accredited Professional	1
Project Totals		22 Possible Points

* Projects may pursue other LEED-NC credits, not listed, towards meeting benchmark.

APPLYING LEED™-NC PRINCIPLES TO AIR FORCE HORIZONTAL CONSTRUCTION

MET BENCHMARK LEVELS

Certified	8 – 10 points
Silver	11 – 13 points
Gold	14 – 16 points
Platinum	17 – 22 points

ATTACHMENT 3

APPLYING LEED™-NC PRINCIPLES TO AIR FORCE UTILITY CONSTRUCTION*

Project Checklist

Sustainable Sites		7 Possible Points
Prereq 1	Construction Activity Pollution Prevention	Required
Credit 1	Site Selection	1
Credit 3	Brownfield Development	1
Credit 5.1	Site Development: Protect or Restore Habitat	1
Credit 5.2	Site Development: Maximize Open Space	1
Credit 6.1	Stormwater Design: Quantity Control	1
Credit 6.2	Stormwater Design: Quality Control	1
Credit 8	Light Pollution Reduction	1
Water Efficiency		2 Possible Points
Credit 1.1	Water Efficient Landscaping: Reduce by 50%	1
Credit 1.2	Water Efficient Landscaping: No Potable Use or No Irrigation	1
Materials & Resources		2 Possible Points
Credit 2.1	Construction Waste Management: Divert 50% from Disposal	1
Credit 2.2	Construction Waste Management: Divert 75% from Disposal	1
Innovation & Design Process		5 Possible Points
Credit 1.1	Innovation in Design	1
Credit 1.2	Innovation in Design	1
Credit 1.3	Innovation in Design	1
Credit 1.4	Innovation in Design	1
Credit 2	LEED Accredited Professional	1
Project Totals		16 Possible Points

* Projects may pursue other LEED-NC credits, not listed, towards meeting benchmark.

APPLYING LEED™-NC PRINCIPLES TO AIR FORCE UTILITY CONSTRUCTION

MET BENCHMARK LEVELS

Certified	6 – 7 points
Silver	8 – 9 points
Gold	10 – 11 points
Platinum	12 – 16 points

ATTACHMENT 4

APPLYING LEED™-NC PRINCIPLES TO AIR FORCE INDUSTRIAL FACILITIES*

Project Checklist

Sustainable Sites		**12 Possible Points**
Prereq 1	Construction Activity Pollution Prevention	Required
Credit 1	Site Selection	1
Credit 3	Brownfield Development	1
Credit 4.2	Alternative Transportation: Bicycle Storage & Changing Rm	1
Credit 4.3	Alternative Transportation: Low Emitting & Fuel Efficient Vehicles	1
Credit 4.4	Alternative Transportation: Parking Capacity	1
Credit 5.1	Site Development: Protect or Restore Habitat	1
Credit 5.2	Site Development: Maximize Open Space	1
Credit 6.1	Stormwater Design: Quantity Control	1
Credit 6.2	Stormwater Design: Quality Control	1
Credit 7.1	Heat Island Effect: Non-Roof	1
Credit 7.2	Heat Island Effect: Roof	1
Credit 8	Light Pollution Reduction	1

Water Efficiency		**5 Possible Points**
Credit 1.1	Water Efficient Landscaping: Reduce by 50%	1
Credit 1.2	Water Efficient Landscaping: No Potable Use or No Irrigation	1
Credit 2	Innovative Wastewater Technologies	1
Credit 3.1	Water Use Reduction: 20% Reduction	1
Credit 3.2	Water Use Reduction: 30% Reduction	1

Energy and Atmosphere		**13 Possible Points**
Prereq 1	Fundamental Commissioning of the Building Energy Systems	Required
Prereq 2	Minimum Energy Performance	Required
Prereq 3	Fundamental Refrigerant Management	Required
Credit 1	Optimize Energy Performance	1-6
Credit 2	On-Site Renewable Energy	1-3
Credit 3	Enhanced Commissioning	1
Credit 4	Enhanced Refrigerant Management	1
Credit 5	Measurement & Verification	1
Credit 6	Green power	1

Materials & Resources		**13 Possible Points**
Prereq 1	Storage & Collection of Recyclables	Required
Credit 1.1	Building Reuse: Maintain 75% of Existing Walls, Floor & Roof	1

Credit 1.2	Building Reuse: Maintain 95% of Existing Walls, Floor & Roof	1
Credit 3.1	Building Reuse: Maintain 50% Interior Non-Structural Elements	1
Credit 2.1	Construction Waste Management: Divert 50% from Disposal	1
Credit 2.2	Construction Waste Management: Divert 75% from Disposal	1
Credit 3.1	Materials Reuse: 5%	1
Credit 3.2	Materials Reuse: 10%	1
Credit 4.1	Recycled Content: 10% (post-consumer + ½ pre-consumer)	1
Credit 4.2	Recycled Content: 20% (post-consumer + ½ pre-consumer)	1
Credit 5.1	Regional Materials: 10% Extracted, Processed & Manufactured Regionally	1
Credit 5.2	Regional Materials: 20% Extracted, Processed & Manufactured Regionally	1
Credit 6	Rapidly Renewable Materials	1
Credit 7	Certified Wood	1

Indoor Environmental Quality		10 Possible Points
Prereq 1	Minimum IAQ Performance	Required
Prereq 2	Environmental Tobacco Smoke (ETS) Control	Required
Credit 1	Outdoor Air Delivery Monitoring	1
Credit 2	Increased Ventilation	1
Credit 3.1	Construction IAQ Management Plan: During Occupancy	1
Credit 3.2	Construction IAQ Management Plan: Before Occupancy	1
Credit 4.1	Low-Emitting Materials: Adhesives & Sealants	1
Credit 4.2	Low-Emitting Materials: Paints & Coatings	1
Credit 4.3	Low-Emitting Materials: Carpet Systems	1
Credit 4.4	Low-Emitting Materials: Composite Wood & Agrifiber Products	1
Credit 5	Indoor Chemical & Pollutant Source Control	1
Credit 8.1	Daylight & Views: Daylight 75% of Spaces	1

Innovation & Design Process		5 Possible Points
Credit 1.1	Innovation in Design	1
Credit 1.2	Innovation in Design	1
Credit 1.3	Innovation in Design	1
Credit 1.4	Innovation in Design	1
Credit 2	LEED Accredited Professional	1

Project Totals	58 Possible Points

* Projects may pursue other LEED-NC credits, not listed, towards meeting benchmark.

APPLYING LEED™-NC PRINCIPLES TO AIR FORCE INDUSTRIAL FACILITIES

MET BENCHMARK LEVELS

Certified	22 - 27 points
Silver	28 - 32 points
Gold	33 - 43 points
Platinum	44 - 58 points